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ABSTRACT

This report briefly describes the background, software, tools used, and future directions of the Scholarly Services project which began in 1987 in the OCLC Office of Research. Several selected projects are reviewed to illustrate how sample data are extracted from the OCLC Online Union Catalog to support scholars in their research endeavors. The first project described is an assessment of Baltic bibliography resources in the OCLC Online Union Catalog by Inese A. Smith of the Loughborough University of Technology, United Kingdom. It is noted that, because of the limited time frame of the study, it focused on materials in Latvian, the researcher's language specialty. The second project was a case study of the interlibrary loan patterns of the Colorado Alliance of Research Libraries which was done by Mary L. Larsgaard of the University of California, Santa Barbara. Three research studies on music materials are also described, including the work of Jeanette Drone in analyzing music scores, manuscripts of scores, and sound recordings, and the development of a hypermedia music reference system; Dr. Brian Stewart's work with the machine readable versions of the Telemann catalog and computer-assisted entry of Telemann scores; and the creation of a machine-compiled supplementary bibliography for a forthcoming publication by Thomas Heck, the music librarian at Ohio State University. Miscellaneous research projects by staff members of the OCLC Office of Research are then listed. Three appendixes provide sample data from the Baltic Bibliography, the Index to the Library of Congress Name-Authority File (Telemann study), and the Classified List of Music Subject Headings. (4 references) (CGD)

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OCLC Office of Research Scholarly Services

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For nearly two decades, librarians worldwide have cataloged materials and recorded holdings using the OCLC® Online Union Catalog and thereby created the world's largest online bibliographic database. These bibliographic records form a collective bibliographic history of mankind. Until recently the information contained in the Online Union Catalog has been generally unavailable to scholars. Extracting sample data for purposes other than cataloging can be a demanding and time-consuming process and is beyond the technical capabilities of many scholars.

The OCLC Office of Research has established the Scholarly Services project to make this storehouse of information more available to the scholarly community. This paper describes the project's background, software tools used, and future directions of the Scholarly Services project.

Background and Tools

The notion of providing scholarly services would not have been possible without some significant environmental and technological developments at OCLC, including fourth-generation programming languages (4GLs) and the SAS® software system. The SAS software system is a combination programming language and statistical analysis package widely used in business and academic settings. Its ease of use and flexibility make it especially appropriate for applications that require rapid turnaround.

However, without data to be analyzed, the best software serves no function. The software/data relationship was completed when an offline copy of the OCLC Online Union Catalog was mounted on a mainframe to offload batch applications from the online database. The combination of the data resource and the tools to mine it provide an opportunity to learn more about the OCLC database than ever before.

The OCLC Office of Research took advantage of this opportunity by instituting the Information Services (IS) project, a forerunner of Scholarly Services. Modeled after a library's reference service, this ongoing project supplies answers to OCLC managers and assists research staff by providing background data for their research. A secondary goal of the project is the timely delivery of this information in as concise a format as possible.

In its first year, IS answered over 100 questions related to the database: some were quick answers from ready reference files, some required a few days investigation, some spanned a quarter's activity, and some remain intractable. It soon became apparent that the information gathered and reported by IS would be worthwhile to the scholarly community outside OCLC. The IS project first provided data to extramural researchers in July 1987. This new offshoot of the Information Services project is called Scholarly Services. Since 1987, Scholarly

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Services has provided data in support of several other projects which have solicited OCLC's assistance.

Selected Project Reviews

Baltic Bibliography

Scholarly Services began in 1987 by assisting Inese A. Smith of the Loughborough University of Technology, United Kingdom. The purpose of her research was to assess Baltic bibliography resources in the OCLC Online Union Catalog. After some preliminary study, it became obvious that an assessment of Baltic materials (Latvian, Estonian, and Lithuanian) within the alotted time frame was much too ambitious. As a result, the scope of the study was limited to Latvian, Smith's language specialty. In four weeks of intensive work, Ms. Smith and the IS team defined the parameters of the study, did the necessary data retrieval, and compiled many descriptive statistical reports and tables about the records of interest (Appendix A).

Interlibrary Loan Case Study

The Scholarly Services project assisted the case study of Colorado Alliance of Research Libraries (CARL) done by Mary L. Larsgaard of the University of California, Santa Barbara. Ms. Larsgaard's proposal was to study the ILL patterns of the CARL libraries as well as the types of materials that these institutions borrow or lend. Ms. Larsgaard visited OCLC for one week in August 1988 to refine her project proposal and to work with OCLC staff to collect the relevant data from OCLC's database. Originally the project was to begin collecting data in 1989, but we observed that we could look at completed transactions from OCLC's archival data with the same results as a sampling from some future transaction log. As a result, all data were collected and necessary analyses completed during Ms. Larsgaard's one week stay at OCLC. Her report will be available through OCLC's Research Report series in 1989.

Music Materials

During Dr. Jeanette Drone's tenure as Postdoctoral Fellow at OCLC, Scholarly Services contributed heavily to her work in analyzing music scores, manuscripts of scores, and sound recordings. The results of this work are published in three OCLC research reports (Drone 1988a, 1988b). In addition, Scholarly Services contributed to the HyperBach prototype, a hypermedia music reference system (Drone 1988c).

While in the process of working with the uniform titles, Scholarly Services contacted Dr. Brian Stewart (1988), Pennsylvania State University, whose work with the machine readable version of the Telemann catalog (TWD) and computer-assisted entry of Telemann scores has been enthusiastically received by German scholars. Scholarly Services provided Dr. Stewart with additional, machine-readable information to supplement his Telemann catalog.

Scholarly Services also created a machine-compiled supplementary bibliography for The Ohio State University's music librarian, Thomas Heck, for his upcoming publication on the Commedia del'Arte theater form.

Miscellaneous Activities

Scholarly Services supports the research work of many of the members of the OCLC Office of Research staff in addition to working with outside scholars. Some of the projects to which Scholarly Services has provided technical assistance include: (1) Elaine Svenonius' and Ed O'Neill's work with equivalent bibliographic records, (2) general research into the effectiveness of the Collection Analysis System's database, (3) Martin Dillon's morphologic analysis of terms, (4) an investigation of the manifestations of author names in the Online Union Catalog, and (5) machine-generated bibliographies.

Conclusion

As Scholarly Services becomes more proficient at data extraction and analysis, we will be better able to serve the community of scholars. At present, this project is a pilot program to gauge the "demand" within the scholarly community. We are primarily interested in assisting research in the library and information science fields, but are willing to help in any scholarly endeavor that could benefit from a compilation and analysis of data from the wealth of information in the OCLC Online Union Catalog.

Appendix A

Sample Baltic Bibliography Data

Table 6

OLUC LATVIAN RECORDS COMPARED WITH ESTIMATED ACTUAL HOLDINGS

Holdings institution	OLUC holdings count	Estimated actual holdings
KSU (Kent State University)	1902	2200
GMZ (Univ. of Wisconsin, Madison)	1862	5000
DLC (Library of Congress - Tapeload)	1717	3-4000
NYP (New York Public Library)	796	3500
Total	6277	13-14000

The discrepancy between OLUC and estimated actual holdings can mostly be accounted for by collections that have not been converted retrospectively to machine-readable form or by collections of uncatalogued materials.

It had been expected that the institutions with the largest holdings would also be the main source institutions, but as shown by the top 20 holdings institutions (Table 7), this was not the case after the first four.

Table 7

LATVIAN RECORDS HOLDINGS COMPARED WITH SOURCE CONTRIBUTIONS

Holdings rank	Holdings count	Institution	Source rank	Source records count	% orig. cat'g	% source contrib.
1	1902	Kent State University	2	1399	73.5	17.4
2	1862	Univ. of Wisconsin, Madison	4	384	20.6	4.8
3	1751	Cleveland Public Library	3	1104	63.0	13.7
4	1717	Library of Congress - Tapeload	1	1646	95.8	20.5
5	796	New York Public Library - Research	14	87	10.9	1.0
6	694	Univ. of Illinois	5	274	39.5	3.4
7	542	Univ. of Nebraska, Lincoln	13	92	16.9	1.1
8	512	UCLA - Biomedical, Law, P.S.T.L.	11	104	20.3	1.3
9	500	Indiana University	8	151	30.2	1.9
10	499	San Jose State Univ.	6	228	45.6	2.8
11	481	Ohio State Univ.	10	105	21.8	1.3
12	408	Univ. of Washington	15	82	20.1	1.0
13	396	Univ. of California, Berkeley	18	55	13.9	0.7
14	359	Boston Public Library	25	39	10.9	0.5
15	355	Univ. of Minnesota, Minneapolis	9	110	31.0	1.4
16	309	Milwaukee Public Library	20	47	15.2	0.6
17	285	Harvard Univ.	16	63	22.1	0.8
18	269	Univ. of Virginia	56	14	5.2	0.2
19	258	Arizona State Univ.	27	37	14.3	0.5
20	227	National Library of Medicine	7	214	94.3	2.7
Total	14122			6235		77.7

Appendix B

Sample Data from Index to Library of Congress Name-Authority File

Established Titles (MARC Tag 100, $t)

81133629 Concertos, $m recorder, flute, string orchestra, $r E minor

87810945 Concertos, $m trumpet, oboes (2), continuo, $r D major

87810885 Concertos, $m trumpet, oboes (2), string orchestra, $r D major

81124893 Concertos, $m trumpet, string orchestra, $r D major

82101156 Concertos, $m trumpets (3), oboes (2), string orchestra, $r D major

85027044 Concertos, $m viola, string orchestra, $r G major; $o arr.

81129322 Concertos. $k Selections

82144129 Concerts et suites. $k Selections

82162718 Concerts et suites. $p Concert, $n no. 3

81115289 Concerts et suites. $p Concert, $n no. 5

78083119 Du aber, Daniel, gehe hin

81056519 Duets, $m flute, viola, $r A major

84123287 Essercizii musici

80101234 Essercizii musici. $k Selections.

85352587 Essercizii musici. $p Solo, $n no. 2

85076480 Essercizii musici. $p Solo, $n no. 3

87126984 Essercizii musici. $p Solo, $n no. 4

79008641 Essercizii musici. $p Solo, $n no. 5

85352588 Essercizii musici. $p Solo, $n no. 8

79130003 Essercizii musici. $p Trio, $n no. 3

82027338 Essercizii musici. $p Trio, $n no. 5

84104575 Essercizii musici. $p Trio, $n no. 6

85170581 Essercizii musici. $p Trio, $n no. 7

Sample Data from Index to Library of Congress Name-Authority File (continued)

Variant & Obsolete Titles (MARC Tag 400, $t) with References to Established Titles

78083151 6-ji psalmÄe USE: Ach Herr, strafe mich nicht in deinem Zorn

87825966 Alleluia! Sing to the Lord a new song USE: Alleluia! Singet dem Herrn ein neues Lied

80125204 Auswahl leichte Klavierstücke USE: Harpsichord music. $k Selections

81023133 Banquet music USE: Musique de table

82246977 Beschreibung einer Augen-Orgel $n (1739) USE: Beschreibung der Augen-Orgel

82136852 Canon sonatas USE: Sonatas, $m flutes (2), $n op. 5

82136852 Canonic sonatas USE: Sonatas, $m flutes (2), $n op. 5

79004406 Cantate sur le Psaume 100 USE: Jauchzet dem Herrn, alle Welt (Cantata)

88609106 Cantates (Der harmonische Gottesdienst) USE: Harmonischer Gottes-Dienst. $k Selections

81129322 Chamber concertos USE: Concertos. $k Selections

81129322 Concerti en ré majeur USE: Concertos. $k Selections

82101156 Concerti grossi, $m trumpets (3), oboes (2), string orchestra, $r D major USE: Concertos, $m trumpets (3), oboes (2), string orchestra, $r D major

81004626 Concerto grosso, $r Bb major USE: Concerti grossi, $m flutes (2), oboe, violin, string orchestra, $r Bb major

81046697 Concerto in A major for oboe d'amore and orchestra USE: Concertos, $m oboe d'amore, string orchestra, $r A major

82162718 Concerto no. 3 in A major USE: Concerts et suites. $p Concert, $n no. 3

85290671 Concerto poloniosy USE: Concerto polonois

78071823 Concerto, $m flute & string orchestra, $r C major USE: Concerto, $m recorder & string orchestra, $r C major (NOTE: established pre-AACR2)

78049206 Concerto, recorder, oboe & string orchestra, Bb major USE: Concerto, $m 2 recorders & string orchestra, $r Bb major (NOTE: established pre-AACR2)

82001189 Concerto-sonata USE: Sonatas, $m trumpet, string orchestra, $r D major

81129322 Concertos de chambre USE: Concertos. $k Selections

LC Control No.	LC Classification	Established Headings 101
85019761	M286 $b M287	Canons, fugues, etc. (Violoncellos (2))
85039162	M286 $b M287	Double bass music (Double basses (2))
85072124	M286 $b M287	Keyed fiddle music (Keyed fiddles (2))
85098487	M286 $b M287	Passacaglias (Violin and viola)
85098489	M286 $b M287	Passacaglias (Violoncellos (2))
85098490	M286 $b M287	Passacaglias (Violoncellos (2)), Arranged
85104573	M286 $b M287	Polonaises (Violin and violoncello)
85105716	M286 $b M287	Potpourris (Violins (2))
85115289	M286 $b M287	Rondos (Viola and double bass)
85115302	M286 $b M287	Rondos (Violoncello and double-bass)
85124857	M286 $b M287	Sonatas (Double basses (2))
85124967	M286 $b M287	Sonatas (Viola and double bass)
85124968	M286 $b M287	Sonatas (Viola and double bass), Arranged
85124975	M286 $b M287	Sonatas (Viola and viola d'amore)

* Data supplied by editor.

Sample Data from Classified List of Music Subject Headings

References

Drone, Jeanette M. 1988a. Indexes to the established titles, variant titles, obsolete uniform titles, and work numbers in the Library of Congress name-authority file for the works of Bach, Beethoven, Brahms, Haydn, Mozart, Schubert, Tchaikovsky, Telemann. Report no. OCLC/OR/RR-88/3. Dublin, Ohio: OCLC.

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